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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,779	01/26/2001	Simon H. Corston-Oliver	M61.12-0682	7875

7590 03/30/2005

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EXAMINER

WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/770,779

Applicant(s)

CORSTON-OLIVER ET AL.

Examiner

James S. Wozniak

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/15/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/26/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the office action from 7/16/2004, the applicant has submitted an amendment, filed 10/15/2004 amending Claims 1-4, 19, and 25, while arguing to traverse the art rejection based on the limitation regarding compression options for one or more portions of a body of text (*Amendment, Pages 8-9*). Applicant's arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments. Also, the rejection has been altered only with respect to the amended claims.

2. Based on the amendment to Claim 4, the examiner has withdrawn the previous objection directed towards minor informalities.

Response to Arguments

3. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to **Claims 1 and 25**, the applicant argues that Grefenstette (*U.S. Patent: 6,289,304*) fails to teach a plurality of compression options for one or more portions of a body of text (*Amendment, Pages 8-9*), however the examiner notes that Grefenstette teaches multiple compression techniques for different parts of speech within a body of text (*Prior Office Action, Pages 2-3*). Based on the result of a linguistic analysis, different portions of a body of text

receive part of speech tags (*Col. 7, Line 44*). Associated with each part of speech tag, is a plurality of compression options based on a reduction level (*Col. 7, Line 44-Col. 8, Line 64*).

Thus, since different parts of speech (text portions) within a body of text have different compression rules for particular reduction levels (*Col. 7, Line 44- Col. 8, Line 64*), the rejection of Claims 1 and 25 is maintained.

With respect to **Claims 5 and 21**, the applicant argues that Kudrolli et al (*U.S. Patent: 6,279,018*) fails to teach the generation of a compression option related to a ShortForm attribute (*Amendment, Pages 9-10*), however the examiner notes that Kudrolli provides an additional level of text compression through word abbreviations (*Prior Office Action, Pages 4-5*). The applicant also argues that Kudrolli fails to teach that the ShortForm compression options are based upon linguistic analysis (*Amendment, Page 10*). Although the generation of ShortForm attributes based on a linguistic analysis has not been claimed (only that the ShortForm attribute is generated after compression rules have been applied has been claimed), the examiner notes that Grefenstette provides the teaching of a linguistic analysis as noted above, and in addition, Kudrolli also teaches such an analysis (*Fig. 9, Element 13b*). Thus, the rejection of Claims 5 and 21 is maintained.

With respect to **Claim 18**, the applicant argues that the prior art of record fails to teach a tree for syntactic analysis which has terminal and non-terminal nodes for the application of compression rules, however no specific arguments are provided as to why the prior art of record fails to teach such a tree and why the cited prior art is not obvious in combination in a rejection of the claimed syntactic analysis tree. Therefore, the below rejection is considered a sufficient response to the applicant's arguments.

With respect to **Claim 19**, see the response to arguments regarding claims 1 and 25.

Claims 2-17, 20-24, and 26-31 are argued as further limiting their parent claims (*Amendment, Pages 9-10*). Thus, since the rejection of the independent claims is maintained, the dependent claims also remain rejected.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-4 and 25-28** are rejected under 35 U.S.C. 102(e) as being anticipated by Grefenstette (*U.S. Patent: 6,289,304*).

With respect to **Claims 1 and 25**, Grefenstette discloses:

Performing a linguistic analysis on the body of text to obtain a linguistic output indicative of linguistic components of the body of text (*part-of-speech analysis and tagging, Col. 7, Lines 25-43*); and

Generating a plurality of compression options for each of a plurality of different portions of the body of text to compress the body of text based on the linguistic output (*compression techniques based on part-of-speech tagging and reduction levels, wherein different parts of*

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speech (text portions) within a body of text have different compression options at a particular reduction level, Col. 7, Line 44- Col. 8, Line 64).

With respect to **Claims 2 and 26**, Grefenstette recites:

Subjecting a portion of the body of text to different sets of compression rules to obtain the plurality of compression options *(different levels of reduction that reduce text content according to compression rules for each assigned part-of-speech tag, Col. 9, Lines 43-64 and Fig. 7).*

With respect to **Claims 3 and 27**, Grefenstette shows:

Subjecting each portion of the body of text to the different sets of compression rules in a predetermined order such that the compression options reflect varying degrees of compression of a same portion of the body of text *(Col. 7, Line 44- Col. 8, Line 64, Fig. 7, and Col. 9, Lines 43-64).*

With respect to **Claims 4 and 28**, Grefenstette discloses:

Generating a compression identifier attribute indicative of at least one of the sets of compression rules to which the portion of the body of text is subjected *(part-of-speech tag, Col. 7, Lines 25-43, that acts as a removal criterion for particular reduction levels, Col. 9, Line 43- Col. 10, Line 15).*

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-17, 19-24, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grefenstette in view of Kudrolli et al (*U.S. Patent: 6,279,018*).

With respect to **Claim 5**, Grefenstette teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels, as applied to Claim 4. Grefenstette does not teach shortened word forms (*ShortForm attributes*) resulting from the application of reduction rules, however Kudrolli recites:

Generating a ShortForm attribute indicative of a compressed form of the portion of the body of text after application of the set of compression rules (*word abbreviations, Figs. 11-15*).

Grefenstette and Kudrolli are analogous art because they are from a similar field of endeavor in text compression/reduction. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the means of producing an abbreviation (ShortForm) of a word within a text document as taught by Kudrolli with the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels as taught by Grefenstette to further reduce text size while maintaining intelligibility in order to allow a user to view complete text documents on a display with limited space (*Col. 1, Lines 56-67*). Therefore, it would have been obvious to combine Kudrolli with Grefenstette for the benefit of obtaining a further reduced text format capable of being viewed on a display with limited space, to obtain the invention as specified in Claim 5.

With respect to **Claim 6**, Grefenstette teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels, as applied to

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Claim 4. Grefenstette does not teach the generation of an abbreviation having a first letter capitalized (*CaseNormalized attributes*), however Kudrolli discloses:

Generating a case normalized attribute, based on the ShortForm attribute, indicative of a CaseNormalizedForm of the ShortForm attribute (*word abbreviations having a first letter capitalized, Figs. 11-15*).

Grefenstette and Kudrolli are analogous art because they are from a similar field of endeavor in text compression/reduction. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the means of generating a word abbreviation having a first letter capitalized as taught by Kudrolli with the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels as taught by Grefenstette in order to ensure intelligibility of further compressed text by indicating the start of each word abbreviation with a capital letter. Therefore, it would have been obvious to combine Kudrolli with Grefenstette for the benefit of providing a visual means for a user to discern the start of a word (since a text string without such capitalization may be unintelligible to a user), to obtain the invention as specified in Claim 6.

With respect to **Claims 7 and 8**, Grefenstette teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels, as applied to Claim 4. Grefenstette does not teach the further reduction through letter removal from a CaseNormalized form, however Kudrolli shows:

Applying letter removal rules to the case normalized attribute to remove letters based on a predetermined location of the letters in the CaseNormalizedForm (*removal of vowels and*

consonants unnecessary for comprehension from abbreviated words to further reduce text size, Figs. 11-15 and position of characters, Col. 15, Lines 54-56).

Grefenstette and Kudrolli are analogous art because they are from a similar field of endeavor in text compression/reduction. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the method of removing unnecessary characters from abbreviated words as taught by Kudrolli with the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels as taught by Grefenstette to further reduce text size while maintaining intelligibility by removing characters unnecessary for comprehension based upon word position, in order to allow a user to view complete text documents on a display with limited space (*Col. 1, Lines 56-67*). Therefore, it would have been obvious to combine Kudrolli with Grefenstette for the benefit of obtaining a further reduced text format capable of being viewed on a display with limited space, to obtain the invention as specified in Claims 7 and 8.

With respect to **Claim 9**, Grefenstette further shows:

Generating a LongForm attribute that reflects substantially no compression of the portion of the body of text (*text format in which no reduction is performed, Fig. 5*).

With respect to **Claim 10**, Grefenstette teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels, as applied to Claim 4. Grefenstette does not teach a further substitution of a ShortForm attribute for a CaseNormalized attribute, however Kudrolli recites:

Setting the case normalized attribute and the compression attribute to the ShortForm attribute (*abbreviation data file used to further reduce the size of text- for example, compressing ForYourInformation to FYI, Col. 23, Table 5*).

Grefenstette and Kudrolli are analogous art because they are from a similar field of endeavor in text compression/reduction. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the method of further reducing text strings by using an abbreviation data file to produce well-known phrase abbreviations as taught by Kudrolli with the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels as taught by Grefenstette in order to further reduce text for viewing on a display of limited size by providing abbreviations of already reduced phrases through the use of an abbreviation data file. Therefore, it would have been obvious to combine Kudrolli with Grefenstette for the benefit of obtaining a further reduced text format capable of being viewed on a display with limited space, to obtain the invention as specified in Claim 10.

With respect to **Claim 11**, Grefenstette further recites:

Applying the set of compression rules based on the syntactic analysis (*markers based on syntactic analysis, Col. 7, Lines 44-67, that act as a removal criterion for particular reduction levels, Col. 8, Lines 1-64*).

With respect to **Claim 12**, Grefenstette additionally recites:

Performing a lexical analysis on the body of text; and performing a morphological analysis on the body of text (*part-of-speech analysis for determining a word group type and morphological analysis, Col. 7, Lines 25-43*).

With respect to **Claim 13**, Grefenstette teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels, as applied to Claim 4. Grefenstette does not teach normalizing a date to a numerical form, however, Kudrolli discloses:

Normalizing dates to a numerical form (*enumeration words to numeric digits conversion for dates in the case of a non-numeric data input, Col. 42, Lines 46-54*).

Grefenstette and Kudrolli are analogous art because they are from a similar field of endeavor in text compression/reduction. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the method of converting dates to a numerical form for text compression as taught by Kudrolli with the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels as taught by Grefenstette in order to further reduce text for viewing on a display of limited size by compressing dates to their numerical equivalents. Therefore, it would have been obvious to combine Kudrolli with Grefenstette for the benefit of obtaining a further reduced text format capable of being viewed on a display with limited space, to obtain the invention as specified in Claim 13.

With respect to **Claim 14**, Grefenstette in view of Kudrolli teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels and word abbreviations, as applied to Claim 5. Grefenstette in view of Kudrolli does not specifically suggest the ability to interpret offset dates from a current date for text compression; however, the examiner takes official notice that a grammar interpreter is a means well known in the art for determining an offset date and producing a numerical equivalent. Therefore, it would

have been obvious to one of ordinary skill in the art, at the time of invention, to determine a numerical equivalent of an offset date using a grammar interpreter in order to provide further text compression for document display on a screen of limited size, to obtain the invention as specified in Claim 14.

With respect to **Claims 15 and 16**, Grefenstette teaches the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels, as applied to Claim 4. Grefenstette does not teach maintaining symbol sensitive text fragments in uncompressed form that would be unintelligible in compressed form, however, Kudrolli recites:

Maintaining text fragments that cannot be accurately understood unless maintained fully intact, in uncompressed form (*Col. 14, Line 66- Col. 15, Line 4*).

Grefenstette and Kudrolli are analogous art because they are from a similar field of endeavor in text compression/reduction. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the method of maintaining case sensitive text that could not be comprehended in compressed form as taught by Kudrolli with the text compression technique utilizing part-of-speech tags to act as a removal criterion for particular reduction levels as taught by Grefenstette in order to prevent the loss or distortion of meaning of specific case sensitive abbreviations, words, or characters (*Col. 14, Line 66- Col. 15, Line 4*) in text compression. Therefore, it would have been obvious to combine Kudrolli with Grefenstette for the benefit of preventing the distortion of text data during compression, to obtain the invention as specified in Claim 15.

With respect to **Claim 17**, Grefenstette in view of Kudrolli teaches the Grefenstette teaches the text compression technique in which symbol sensitive text fragments are maintained,

as applied to Claim 16. Grefenstette in view of Kudrolli does not specifically suggest that URLs and email addresses are maintained in uncompressed form; however, the examiner takes official notice that it is well known in the art to maintain symbol sensitive fragments (such as URLs and email addresses) in text compression because the text would be altered if compressed, thus losing an original meaning. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to maintain URLs and email addresses in text compression so as to prevent loss or distortion of meaning, to obtain the invention as specified in Claim 17.

Claim 19 contains subject matter similar to Claims 1, 3, and 5, and thus, is rejected for the same reasons.

Claim 20 contains subject matter similar to Claim 4, and thus, is rejected for the same reasons.

Claim 21 contains subject matter similar to Claim 5, and thus, is rejected for the same reasons.

Claim 22 contains subject matter similar to Claim 6, and thus is rejected for the same reasons.

Claim 23 contains subject matter similar to Claim 7, and thus is rejected for the same reasons.

Claim 24 contains subject matter similar to Claim 9, and thus is rejected for the same reasons.

Claims 29 and 30 contain subject matter similar to Claims 5-7, and thus, are rejected for the same reasons.

Claim 31 contains subject matter similar to Claim 9, and thus, is rejected for the same reasons.

7. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Grefenstette in view of Kudrolli et al, and further in view of Ueda (*U.S. Patent: 6,493,663*).

With respect to **Claim 18**, Grefenstette in view of Kudrolli teaches the text compression technique utilizing syntactic analysis, as applied to Claim 11. Although Grefenstette does teach a syntactic analysis for inserting special markers identifying particular words or word groups (*Col. 7, Lines 44-67*), no specific tree-based analysis is taught, however, tree-based syntactic analysis is well known in the linguistic art for identifying word properties within a sentence as is evidenced by Ueda:

Syntactic analysis includes a tree having non-terminal nodes representing multi-word portions of the body of text and terminal nodes indicative of words in the body of text, and wherein both the non-terminal nodes and the terminal nodes are examined for application of compression rules (*tree-based syntactic analysis used to produce a document summary, Col. 5, Line 52- Col. 6, Line 27*).

Grefenstette, Kudrolli, and Ueda are analogous art because they are from a similar field of endeavor in text compression processing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the use of a syntactic tree-based analysis to determine sentence content as taught by Ueda with the text compression technique utilizing syntactic analysis to gain a further understanding of sentence content so words important for document comprehension can be retained while extraneous text can be removed.

Therefore, it would have been obvious to combine Ueda with Grefenstette in view of Kudrolli for the benefit of obtaining improved text compression through the use of a tree-based syntactic analysis method, to obtain the invention as specified in Claim 18.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Koontz (*U.S. Patent: 6,535,886*)- teaches a text compression method utilizing a syntax parse tree.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (703) 305-8669 and email is James.Wozniak@uspto.gov. The examiner can normally be reached on Mondays-Fridays, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached at (703) 305-4827. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

James S. Wozniak
3/1/2005



DAVID L. OMETZ
PRIMARY EXAMINER